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22852 7590 02/04/2008 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413				
			EXAMINER CHEN, QING	
			ART UNIT 2191	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/676,819

Applicant(s)

WEDEL ET AL.

Examiner

Qing Chen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20070625</u> | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office action is in response to the amendment filed on June 25, 2007.
2. **Claims 1-6 and 8-14** are pending.
3. **Claims 1-6 and 8-13** have been amended.
4. **Claim 7** has been cancelled.
5. The objection to the oath/declaration is maintained in view of Applicant's arguments and further explained below.
6. The objections to the drawings due to informalities are withdrawn in view of Applicant's amendments to the drawings and the specification. However, Applicant's amendments to the drawings fail to address the objection due to non-compliance with 37 CFR § 1.121(d). Accordingly, this objection is maintained and further explained below.
7. The objections to the specification are withdrawn in view of Applicant's amendments to the specification.
8. The objections to Claims 2-13 are withdrawn in view of Applicant's amendments to the claims and/or cancellation of the claims.
9. The 35 U.S.C. § 112, second paragraph, rejections of Claims 12 and 13 are withdrawn in view of Applicant's amendments to the claims.
10. The 35 U.S.C. § 101 rejections of Claims 1-14 are withdrawn in view of Applicant's arguments and amendments to the claims.

***Response to Amendment***

***Oath/Declaration***

11. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:  
It does not identify the citizenship of the first inventor.

Applicant indicated in the "Remarks" that a revised oath/declaration including the citizenship of the first inventor is submitted with the amendment. However, it appears that no revised oath/declaration is submitted. Therefore, the objection is maintained.

***Drawings***

12. The drawings were received on June 25, 2007. However, Figure 1 has not been submitted to correct the issue of non-compliance with 37 CFR § 1.121(d). Any changes to an application drawing must be in compliance with 37 CFR § 1.84 and must be submitted on a replacement sheet of drawings, which shall be an attachment to the amendment document and, in the top margin, labeled "Replacement Sheet."

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where

necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. **Claims 1, 3-5, and 14** are rejected under 35 U.S.C. 102(b) as being anticipated by US **5,481,710 (hereinafter "Keane")**.

As per **Claim 1**, Keane discloses:

- displaying a user interface in a client program, the user interface having a plurality of controls, the plurality of controls including multiple types of controls, each control having a state (see Figures 1 and 2; Column 2: 41-67, "... a computer system display screen is designated generally by the numeral 11. Display screen 11 has displayed therein a window 13, which

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*represents a drawing program, and a window 15, which represents a text editor application."*  
*and "Drawing programs, such as the one of window 13, typically give the user the ability to draw figures, such as triangle 21, move them about, rotate them, resize them, color them, and perform other operations, all well known to those skilled in the art."* and *"The text editor of window 15 allows the user to enter text, as shown in client area 29 of window 15, and perform various actions upon the text, such as change fonts, delete, move, copy, and perform other operations, all as are well known to those skilled in the art."");*

- for each control in the plurality of controls, storing the state of the control as a first state for the control (*see Column 3: 37-39, "After the applications and undo/redo service have been started and initialized, the application monitors user input at block 41."");*

- receiving user input comprising a change to the state of a control in the plurality of controls (*see Column 3:39-42, "If, at decision block 43, the user requests a menu, which is illustrated in FIG. 2 by pulling down menu 31, the application executes the menu handler routine, represented generally at block 45."");*

- updating the state of the control based on the user input (*see Column 3: 57-59, "If the action is undoable, then the application processes the action, at block 60, builds a packet, at block 61, and gives the packet to the undo/redo service."");*

- storing the updated state of the control as a second state for the control (*see Column 4: 6-10, "... after the packet is built, it is given to the undo/redo service where it is "pushed" or put on top of the undo stack of the service at block 63. Whenever a packet is given to the undo/redo service, the redo stack of the service is cleared, at block 65."");*

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- receiving user input comprising a request to undo the change (*see Column 4: 38-40, "... whenever the user requests the UNDO action (at decision block 47 of FIG. 3), the undo/redo service pops the top packet from the undo stack at block 79."*); and
- restoring the state of the control to reflect the first state for the control (*see Column 4: 41-43, "Then the service executes that packet's undo code block at block 81. Again, the code block, when applied to the object or objects of the packet, will cause the action to be undone."*).

As per **Claim 3**, the rejection of **Claim 1** is incorporated; and Keane further discloses:

- wherein the state of the control includes a data state and a view state (*see Figures 1 and 2*), and wherein the operations further comprise:
  - determining whether the change affects the data state or the view state of the control (*see Column 4: 13-25, "When the user requests a menu (at decision block 43 of FIG. 3) the application inquires of the undo/redo service; at decision block 67, whether there are any packets to be undone." and "If the undo stack is not empty, then the undo/redo service returns the text string from the top packet of the undo stack and the application enables the undo action with the string returned from the undo/redo service, at block 71. Thus, in FIG. 2, menu 31 of window 15 includes "UNDO TYPING", which indicates that the text string from the top packet of the undo stack is "TYPING"."*); and
  - restoring the state of the control only if the change affects the data state of the control (*see Column 4: 41-43, "Then the service executes that packet's undo code block at block 81. Again, the code block, when applied to the object or objects of the packet, will cause the action to be undone."*).

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and Keane further discloses:

- receiving user input comprising a request to redo the change to the control (*see Column 4: 56-57, "... whenever the user requests the REDO action (decision block 51 of FIG. 3) ...*"); and

- restoring the state of the control to reflect the second state for the control (*see Column 4: 57-59, "... the service pops the top packet from the redo stack at block 85 and executes that packets redo code block at block 87."*).

As per **Claim 5**, the rejection of **Claim 1** is incorporated; and Keane further discloses:

- wherein the user input comprising the request to undo the change is received while focus is not on the control (*see Column 3: 39-42, "If, at decision block 43, the user requests a menu, which is illustrated in FIG. 2 by pulling down menu 31 ..."*).

**Claim 14** is an apparatus claim corresponding to the computer program product claim above (Claim 1) and, therefore, is rejected for the same reason set forth in the rejection of Claim 1.

15. **Claims 9 and 11-13** are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,185,591 (hereinafter "**Baker**").

As per **Claim 9**, Baker discloses:



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- generating a plurality of data structures that store application data and associations between the application data and a plurality of application controls, wherein the plurality of application controls are rendered based on the application data (*see Figure 2; Column 7: 52-65, "As part of the data structure 21 of the edit system, edit control structure 27 represents the global data for controlling the edit system. Document control structure 28 contains information to control the operations on a document in the edit system, and as is illustrated pictorially in FIG. 2, there are a plurality of these controls created, one for each document. Edit buffer 29 comprises a linked list of all the elements for a particular document as further described with reference to element structure 30."*; Column 8: 40-46, "View control structure 33 comprises data related to the control of an edit view for one document in an edit system window and includes fonts defined for the view; view's size, format of its displayed prefix area, the required visibility of elements (for filtering/zooming in), screen fields for the document view consisting of the particular area of the edit buffer that displays."");
- detecting that at least one data structure of the plurality of data structures has changed from a prior state to a new state (*see Column 8: 35-39, "An undo unit records a set (generation) of changes in the document. It comprises all the data necessary to undo an entire edit operation performed on the text, from one character change in one text record, to all the changes done in the context of one global change operation."*);
- recording the prior state of the at least one data structure (*see Column 8: 20-31, "Undo structure 32 within Undo Stack 31 consists of a linked list of undo records created as changes take place to the document during the edit session, while undo recording is enabled."*);

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- receiving user input requesting that an undo operation be performed (*see Column 6: 25-39, "Click the right mouse button while pointing the cursor to the change "c" undo element below document record 010. This brings up a pop-up menu 18 with an item "Restore changed record".*"); and
- performing the undo operation by restoring the at least one data structure to the prior state (*see Column 6: 25-39, "The user activates this selective record by clicking on it in order to restore the original statement since it was determined that "lineColour" was incorrectly modified to "lineColor" by the previously indicated global change (C) of "Colour" to "Color" ...*").

As per **Claim 11**, the rejection of **Claim 9** is incorporated; and Baker further discloses:

- wherein the at least one data structure is stored on a client device (*see Column 4: 49-56, "... the invention is also suitable and relevant to various computer system environments ... including use in conjunction with host computer systems such as VM/CMS operating systems and personal computer systems such as OS/2®, AIX® and Windows® operating systems.*").

As per **Claim 12**, the rejection of **Claim 9** is incorporated; and Baker further discloses:

- wherein the one or more application controls include multiple types of controls (*see Column 7: 40-45, "The Graphical User Interface control 25 controls the document edit view and builds and renders the edit view. Interface control 25 manages the display attributes of the rendered elements. It can show the document Edit Buffer 29 selectively (zoom in/out), by only including in the view those elements whose visibility matches the current settings.*").

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As per **Claim 13**, the rejection of **Claim 9** is incorporated; and Baker further discloses:

- wherein the associations between the application data and the plurality of application controls are defined by metadata (*see Column 7: 58-60 and 66-67 through Column 8: 1-19, "Edit buffer 29 comprises a linked list of all the elements for a particular document as further described with reference to element structure 30."*).

### ***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Keane**.

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Keane further discloses:

- wherein the multiple types of controls include one or more of a text field control type and a menu control type (*see Figures 1 and 2*).

However, Keane does not disclose:

- wherein the multiple types of controls include one or more of a radio button control type, a table control type, and a tray control type.

Official Notice is taken that it is old and well known within the computing art to include one or more of a radio button control type, a table control type, and a tray control type in a user

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interface. A user interface, such as a form, typically includes various form elements that allow a user to input the desired information. For example, a text box is used to input textual information, a group of radio buttons or a pull-down menu is used to make a selection from a list, etc. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the multiple types of controls include one or more of a radio button control type, a table control type, and a tray control type. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

18. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Keane** in view of **US 6,167,455 (hereinafter "Friedman")**.

As per **Claim 6**, the rejection of **Claim 1** is incorporated; however, Keane does not disclose:

- wherein restoring the state of the control includes restoring the state of another control that shares data with the control.

Friedman discloses:

- wherein restoring the state of the control includes restoring the state of another control that shares data with the control (*see Column 2: 44-47, "The user can thus cause the do and undo method of one command object to be invoked, and the corresponding do or undo method of a linked command object will also be invoked."*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Friedman into the teaching of Keane to

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include wherein restoring the state of the control includes restoring the state of another control that shares data with the control. The modification would be obvious because one of ordinary skill in the art would be motivated to product consistent results (*see Friedman – Column 2: 64-67*).

19. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Keane** in view of **US 5,524,205 (hereinafter “Lomet”)**.

As per **Claim 8**, the rejection of **Claim 1** is incorporated; however, Keane does not disclose:

- wherein restoring the state of the control occurs prior to transmitting the state of the control to a server.

Lomet discloses:

- wherein restoring the state of the control occurs prior to transmitting the state of the control to a server (*see Column 1: 66-67 through Column 2: 1-3, “... a function shipping system, which is better known as a "partitioned" system, ships a collection of operations to the computer designated as the "server" for a partition of the data.”*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lomet into the teaching of Keane to include wherein restoring the state of the control occurs prior to transmitting the state of the control to a server. The modification would be obvious because one of ordinary skill in the art would be

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motivated to perform the operations and ships the results back to the requestor (*see Lomet – Column 2: 2-3*).

20. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Baker**.

As per **Claim 10**, the rejection of **Claim 9** is incorporated; however, Baker does not disclose:

- wherein the at least one data structure is at least one data tree.

Official Notice is taken that it is old and well known within the computing art to utilize tree as a data structure. In computer science, a tree is a widely used data structure that emulates a tree structure with a set of linked nodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the at least one data structure is at least one data tree. The modification would be obvious because one of ordinary skill in the art would be motivated to make information easier to manipulate and search.

#### ***Response to Arguments***

21. Applicant's arguments filed on June 25, 2007 have been fully considered, but they are not persuasive.

#### ***In the Remarks, Applicant argues:***

- a) Quoting Keane, the Examiner appears to assert that "[d]isplay screen 11 has displayed therein a window 13, which represents a drawing program, and a window 14, which represents a

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text editor application'" corresponds to Applicants' recitation of "the user interface having a plurality of controls," (Office Action, p. 9) a point which Applicants do not concede. However, the Examiner fails to identify where Keane discloses the further recitations of claim 1 including, for example, "the plurality of controls including multiple types of controls, each control having a state." Indeed, Keane fails to disclose these further recitations.

***Examiner's response:***

a) Examiner disagrees. Keane clearly discloses "the plurality of controls including multiple types of controls, each control having a state" (*see Column 2: 41-67, "Drawing programs, such as the one of window 13, typically give the user the ability to draw figures, such as triangle 21, move them about, rotate them, resize them, color them, and perform other operations, all well known to those skilled in the art."* and *"The text editor of window 15 allows the user to enter text, as shown in client area 29 of window 15, and perform various actions upon the text, such as change fonts, delete, move, copy, and perform other operations, all as are well known to those skilled in the art."*). Thus, a drawing program allows a user to draw, move, rotate, resize, color figures, such as a triangle. A text editor allows a user to enter text, change font, delete, move, copy text, etc. These are the various types of controls that can be undo/redo in the drawing program and the text editor.

Furthermore, the independent claims recite only "a plurality of controls" with no further clarification on the claim scope of the term "controls" as intended by the Applicant to cover. Thus, as the claims are interpreted as broadly as their terms reasonably allow (see MPEP §

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2111.01 I), the interpretation of a broad limitation of "controls" as drawing/text operations and the like by one of ordinary skill in the art is considered to be reasonable by its plain meaning.

***In the Remarks, Applicant argues:***

b) While Baker may disclose "edit control structure 27 represents the global data for controlling the edit system" and that "[d]ocument control structure 28 contains information to control the operations on a document in the edit system," Baker does not disclose "generating a plurality of data structures that store application data and associations between the application data and a plurality of application controls," as recited in Applicants' amended independent claim 9.

***Examiner's response:***

b) Examiner disagrees. Keane clearly discloses "generating a plurality of data structures that store application data and associations between the application data and a plurality of application controls" (see Figure 2; Column 7: 52-65, "As part of the data structure 21 of the edit system, edit control structure 27 represents the global data for controlling the edit system. Document control structure 28 contains information to control the operations on a document in the edit system, and as is illustrated pictorially in FIG. 2, there are a plurality of these controls created, one for each document. Edit buffer 29 comprises a linked list of all the elements for a particular document as further described with reference to element structure 30."; Column 8: 40-46, "View control structure 33 comprises data related to the control of an edit view for one document in an edit system window and includes fonts defined for the view, view's size, format of its displayed



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*prefix area, the required visibility of elements (for filtering/zooming in), screen fields for the document view consisting of the particular area of the edit buffer that displays."*). Note that a plurality of document control structures are created (a plurality of data structures that store application data), one for each document. Each document has a view control structure that contains data relating to the control of an edit view for the document, such as the size, format, elements of the edit view (a plurality of application control).

Furthermore, the independent claim recites only "a plurality of application controls" with no further clarification on the claim scope of the term "controls" as intended by the Applicant to cover. Thus, as the claims are interpreted as broadly as their terms reasonably allow (see MPEP § 2111.01 I), the interpretation of a broad limitation of "controls" as edit view controls and the like by one of ordinary skill in the art is considered to be reasonable by its plain meaning.

***In the Remarks, Applicant argues:***

c) The Office Action alleges that "it is old and well known within the computing art to include one or more of a radio button control type, a table control type, and a tray control type in a user interface" and "it would be been obvious...to include wherein the multiple types of controls include one or more of a radio button control type, a table control type, and a tray control type in a user interface." Office Action, p. 15. However, the Office Action fails to provide any reasoning as to why one would have found the claimed invention to have been obvious in light of the teachings of Keane other than general allegations such as, for example, "it would have been obvious because one of ordinary skill in the art would be motivated to enhance usability." Id. at p. 16. Thus, the Office Action merely provides conclusory statements about the

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cited reference, none of which are sufficient to constitute establishment of a prima facie case of obviousness.

***Examiner's response:***

c) As previously pointed out in the Non-Final Rejection (mailed on 03/26/2007), the Examiner clearly stated that a user interface, such as a form, typically includes various form elements that allow a user to input the desired information. For example, a text box is used to input textual information, a group of radio buttons or a pull-down menu is used to make a selection from a list, etc. *Id.* Examiner cites HTML 4.01 Specification, December 1999 (hereinafter "HTML1999") as concrete evidence to support the Examiner's taking of Office Notice. The newly added reference is added only as directly corresponding evidence to support the prior common knowledge finding, and it does not result in a new issue or constitute a new ground of rejection.

HTML1999 discloses:

- wherein the multiple types of controls include one or more of a radio button control type, a table control type, and a tray control type (*see Section 17.2.1*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of HTML1999 into the teaching of Keane to include wherein the multiple types of controls include one or more of a radio button control type, a table control type, and a tray control type. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

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***In the Remarks, Applicant argues:***

d) The Office Action alleges that "a tree is a widely used data structure that emulates tree structure with a set of linked nodes" and "it would be been obvious...to include wherein the at least one data structure is at least one data tree." Office Action, p. 18. However, the Office Action fails to provide any reasoning as to why one would have found the claimed invention to have been obvious in light of the teachings of Baker other than general allegations such as, for example, "it would have been obvious... because one of ordinary skill in the art would be motivated to make information easier to manipulate and search." *Id.* Thus, the Office Action merely provides conclusory statements about the cited reference, none of which are sufficient to constitute establishment of a prima facie case of obviousness.

***Examiner's response:***

d) As previously pointed out in the Non-Final Rejection (mailed on 03/26/2007), the Examiner clearly stated that in computer science, a tree is a widely used data structure that emulates a tree structure with a set of linked nodes. *Id.* Examiner cites US 6,543,006 (hereinafter "Zundel") as concrete evidence to support the Examiner's taking of Office Notice. The newly added reference is added only as directly corresponding evidence to support the prior common knowledge finding, and it does not result in a new issue or constitute a new ground of rejection.

Zundel discloses:

- wherein the at least one data structure is at least one data tree (*see Column 4: 40-46, "Program 30 utilizes several Directed Acyclic Graph (DAG) data structures to track design data and design intent. These structures will be briefly discussed to provide a foundation for*

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*terminology used throughout this description. These DAGs are presented purely for exemplary purposes--other data structures, such as non-directional graphs, trees, etc., can also be used.”;*

*Column 8: 60 and 61, “Note also that either a linear list or hierarchical tree can be used to track operations and related program states.”).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Zundel into the teaching of Baker to include wherein the at least one data structure is at least one data tree. The modification would be obvious because one of ordinary skill in the art would be motivated to make information easier to manipulate and search.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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